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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,845	03/04/2002	Julio A. Abusleme	108910-00057	4315

7590 02/28/2007  
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Washington, DC 20036-5339

EXAMINER
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ZACHARIA, RAMSEY E

ART UNIT	PAPER NUMBER
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1773

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/28/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/086,845

Applicant(s)

ABUSLEME ET AL.

Examiner

Ramsey Zacharia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4 and 6-18 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                           | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 30 January 2007 has been entered.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 112***

3. Claims 4, 6, 7, 16, and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Independent claims 4, 6, and 18 (as well as dependent claims 7 and 16) are rendered indefinite because it is unclear how the copolymer containing acrylic monomer (a) can have an acrylic content of 0.01 mole% if the blend contains at least 0.01 mole% acrylic monomer. A polymer having an acrylic content of 0.01 mole% blended with an acrylic-free polymer should result in a blend having an acrylic content of less than 0.01 mole%.

***Claim Language***

5. For the purpose of examination, layer A) of claims 4, 6, and 18 is taken to comprise a copolymer of ethylene, chlorotrifluoroethylene and/or tetrafluoroethylene, and acrylic monomer (a) blended with the same copolymer of ethylene, chlorotrifluoroethylene and/or tetrafluoroethylene but without acrylic monomer (a), wherein the layer as a whole contains 0.01-15 mole% acrylic monomer with respect to the total sum of monomers of ethylene, chlorotrifluoroethylene, and/or tetrafluoroethylene.

***Claim Rejections - 35 USC § 103***

6. Claims 1, 3, 8, 9, 11-15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abusleme et al. (EP 1,038,914 A1) in view of Stoeppelmann (U.S. Patent 5,869,157).

Abusleme et al. teach a multilayer article that may be used as a fuel hose comprising a layer of a fluorinated polymer composition and a layer of hydrogenated polymer (paragraph 0022). Suitable hydrogenated polymers include thermoplastic polymers, such as polyamides (paragraph 0023). The fluorinated polymer composition comprises a copolymer of ethylene with tetrafluoroethylene and/or chlorotrifluoroethylene modified with an acrylic monomer, such as n-butylacrylate, that reads on the monomer of formula (a) in instant claim 1 (paragraphs 0009 and 0011). The copolymer comprises 10-70 mole% ethylene, 30-90 mole% tetrafluoroethylene and/or chlorotrifluoroethylene, and 0.1-30 mole% of acrylic monomer (paragraph 0010). The copolymer may contain additives such as PTFE or silicates (paragraph 0015).

Regarding claim 9, the tube of Abusleme et al. is taken to be in the form of sheath-core fibers since it has inner (i.e. core) and outer (i.e. sheath) layers.

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Abusleme et al. do not teach the presence of a layer comprising diamines and a polyamide having an amount of  $\text{-NH}_2$  end groups in the range of 40-300  $\mu\text{eq/g}$ . However, Abusleme et al. do teach a tube comprising a layer of a fluoropolymer and a layer of polyamide.

Stoeppelmann is directed to an adhesion promoter that bonds fluoropolymers to polyamides for use in multilayer tubes (column 2, lines 33-41). In one embodiment the adhesion promoter comprises a polyamide having an  $\text{-NH}_2$  end group concentration of 50  $\mu\text{eq/g}$  (column 4, lines 1-14). Adhesion may be obtained without any diamine by annealing at 100-130  $^\circ\text{C}$  or after being stored for several days at room temperature (column 4, lines 19-26).

One of ordinary skill in the art would be motivated to use the adhesion promoter of Stoeppelmann in the article of Abusleme et al. to tightly adhere the fluoropolymer and polyamide layers together.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Abusleme et al. (EP 1,038,914 A1) in view of Stoeppelmann (U.S. Patent 5,869,157) as applied to claim 1 above, and further in view of Krause et al. (U.S. Patent 5,958,532).

Abusleme et al. taken in view of Stoeppelmann teach all the limitations of claim 10, as outlined above, except for the present of an inner layer that is made conductive by the incorporation of graphite and/or carbon black.

Krause et al. is directed to a fluoropolymer hose that may be used in a fuel line (column 1, lines 15-17). The hose comprises two fluoropolymers layers (column 2, lines 23-29). The inner fluoropolymer layer has electrostatic discharge resistance, allowing electrostatic charge generated during the flowing of fuel to be carried to the ground (column 3, lines 52-63). The

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most preferred fluoropolymer for the inner fluoropolymer layer is ETFE sold under the Tefzel<sup>®</sup> trademark (column 3, line 64-column 4, line 20). Tefzel<sup>®</sup> ETFE fluoropolymers are composed of about 40-70 % ethylene and 30-60% tetrafluoroethylene.

One of ordinary skill in the art would be motivated to add an inner fluoropolymer layer of ETFE having electrostatic discharge resistance to the fuel hose of Abusleme et al. to yield a safer product by allowing electrostatic charge generated during use to be carried to the ground.

#### ***Allowable Subject Matter***

8. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The reasons for indicating allowable subject matter was put forth in the Office action mailed 14 August 2003.

9. Claims 4, 6, 7, 16, and 18 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action. The reasons for indicating allowable subject matter for claim 4 was put forth in the Office action mailed 14 August 2003; claims 6, 7, 16, and 18 are allowable for the same reason as claim 4.

#### ***Response to Arguments***

10. Applicant's arguments filed 19 December 2006 have been fully considered but they are not persuasive.

The applicants argue that the claims as written, requiring layer (A) to consist of the copolymer (plus the recited optional additives) and requiring layer (B) to consist of the

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polyamide, are distinguished over Abusleme et al. taken in view of Stoeppelmann because Abusleme et al. requires a cross-linking agent and Stoeppelmann requires the presence of a diamine.

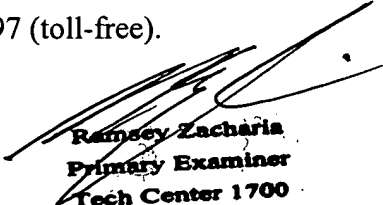
However, it is noted that the cross-linking agent of Abusleme et al. is not required to be added to a layer but may be applied to the surface of the fluorinated polymer layer (paragraph 0017). Moreover, Stoeppelmann does not require the presence of a diamine in the adhesion promoting layer provided that the article is annealing at 100-130 °C or stored for several days at room temperature (column 4, lines 19-26).

### *Conclusion*

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (571) 272-1518. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney, can be reached at (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Ramsey Zacharia  
Primary Examiner  
Tech Center 1700